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09/667,826	09/21/2000	Robert F. Cannata	901.0013USU	9090

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EXAMINER
HANNAHER, CONSTANTINE

ART UNIT	PAPER NUMBER
2878	

DATE MAILED: 01/17/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 09/667,826	Applicant(s) CANNATA ET AL.	
	Examiner Constantine Hannaher	Art Unit 2878	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *27 December 2001* .

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-35 and 40-58* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☒ Claim(s) *2-4,8-11,14,16-18,20,23 and 26-35* is/are allowed.

6)☒ Claim(s) *1,5-7,12,13,15,19,21,22,24,25,40-50 and 52-58* is/are rejected.

7)☒ Claim(s) *51* is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11)☐ The proposed drawing correction filed on _____ is: a)☐ approved b)☐ disapproved by the Examiner.

If approved, corrected drawings are required in reply to this Office action.

12)☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

13)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____ .

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

14)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).

a) ☐ The translation of the foreign language provisional application has been received.

15)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ .
4) ☐ Interview Summary (PTO-413) Paper No(s). _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other:

DETAILED ACTION

Claim Objections

1. Claim 51 is objected to under 37 CFR 1.75 as being a substantial duplicate of claim 20. When two claims in an application are duplicates or else are so close in content that they both cover the same thing, despite a slight difference in wording, it is proper after allowing one claim to object to the other as being a substantial duplicate of the allowed claim. See MPEP § 706.03(k).

Claim Rejections - 35 USC § 251

2. Claims 40-50 and 52-58 are rejected under 35 U.S.C. 251 as being an improper recapture of broadened claimed subject matter surrendered in the application for the patent upon which the present reissue is based. See *Hester Industries, Inc.* v. *Stein, Inc.*, 142 F.3d 1472, 46 USPQ2d 1641 (Fed. Cir. 1998); *In re Clement,* 131 F.3d 1464, 45 USPQ2d 1161 (Fed. Cir. 1997); *Ball Corp.* v. *United States*, 729 F.2d 1429, 1436, 221 USPQ 289, 295 (Fed. Cir. 1984). A broadening aspect is present in the reissue which was not present in the application for patent. The record of the application for the patent shows that the broadening aspect (in the reissue) relates to subject matter that applicant previously surrendered during the prosecution of the application. Accordingly, the narrow scope of the claims in the patent was not an error within the meaning of 35 U.S.C. 251, and the broader scope surrendered in the application for the patent cannot be recaptured by the filing of the present reissue application.

The reissue claims 40, 41, 42, 43, 52, and 58 delete a limitation ("parallel connected") from the patent claims. Therefore, the reissue claims are broader than the patent claims in the aspect of the electrical connection of the plurality of circuit elements. The broader aspect of the reissue claims relates to subject matter that applicant previously surrendered during the prosecution of the original application. The limitation ("parallel connected") omitted in the reissue claims was present in the

claims of the original application (at least claims 2-4, 8, 24, 26, 37, 42, 44, and 45). The examiner's reasons for allowance in the original application stated that it was that limitation ("the means for correcting specified by independent claim 2, 24, 33 or 37" where the means for correcting specified a correction circuit including a plurality of parallel connected circuit elements and means for selectively electrically connecting said circuit elements into the detector readout circuit in response to stored offset correction values) which distinguished over a potential application of references Lung and Masarik *et al.* Applicant did not present on the record a counter statement or comment as to the examiner's reasons for allowance, and permitted the claims to issue. The omitted limitation is thus established as relating to subject matter previously surrendered. MPEP § 1412.02.

The reissue claim 53 deletes a limitation ("capacitors") from the patent claims. Therefore, the reissue claims are broader than the patent claims in the aspect of the electrical connection between the sample node and a reference voltage. The broader aspect of the reissue claims relates to subject matter that applicant previously surrendered during the prosecution of the original application. The limitation ("capacitors") omitted in the reissue claims was present in the claims of the original application (claim 32). The examiner's reasons for allowance in the original application stated that it was that limitation ("the means for correcting specified by independent claim 2, 24, 33 or 37" where the means for correcting specified a plurality of capacitors connected between said sample node and a reference voltage and a corresponding plurality of switches coupled in series with each respective capacitor and said reference voltage) which distinguished over a potential application of references Lung and Masarik *et al.* Applicant did not present on the record a counter statement or comment as to the examiner's reasons for allowance, and permitted the claims to issue. The omitted limitation is thus established as relating to subject matter previously surrendered. MPEP § 1412.02.

Claim Rejections - 35 USC § 112

3. The following is a quotation of the first paragraph of 35 U.S.C. 112:

> The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

4. Claims 40-50 and 52-58 are rejected under 35 U.S.C. 112, first paragraph, as containing subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

The specification does not describe an infrared imaging system or an infrared focal plane array in which the circuit elements of the correction circuit in the means for separately correcting offsets in the detection signals are not parallel connected. Note the illustrations of the claimed subject matter as offset correction circuit **220**. A plurality of circuit elements, capacitors **224** and switches **228**, are parallel connected in Figs. **3B** and **3C**. A plurality of circuit elements, constant current sources **400** and switches **228**, are parallel connected in Figs. **10** and **11**. A plurality of circuit elements, constant current sources **600** and switches **610**, are parallel connected in Fig. **12**. Note the repeated description of the correction circuit as a plurality of circuit elements which are "parallel connected": column 3, lines 59, 62, and 66; column 13, line 15; column 16, line 49; and, column 17, line 20. No other form of electrical connection for the plurality of circuit elements is disclosed. The original specification demonstrates, to one skilled in the art, an absence of disclosure sufficient to indicate that a patentee could have claimed the subject matter.

The specification does not describe an infrared focal plane array in which the means for correcting the analog detection signal does not comprise capacitors or parallel connected constant current sources. Note the illustrations of the claimed subject matter as offset correction circuit **220**.

A plurality of capacitors **224** are connected between the sample node **222** and a reference voltage $\mathbf{V_R}$ in Figs. **3B** and **3C**. A plurality of parallel connected constant current sources **400** are connected between the sample node **222** and a reference voltage $\mathbf{V_R}$ in Figs. **10** and **11**. A plurality of parallel connected constant current sources **600** are connected between the sample node **222** and a reference voltage $\mathbf{V_R}$ in Fig. **12**. Note the repeated description of the correction circuit as capacitors or parallel connected constant current sources: column 3, lines 62-64; column 13, line 15; column 16, line 49; and, column 17, line 20. No other type of circuit elements is disclosed. Since claim 53 differs from claim 58 only in the inclusion of a method of operation at the end and process limitations cannot serve to impart patentability to structures, and claim 58 recites the constant current sources, the principle of claim differentiation demands that the means for correcting in claim 53 be the disclosed plurality of capacitors. The original specification demonstrates, to one skilled in the art, an absence of disclosure sufficient to indicate that a patentee could have claimed the subject matter.

Claim Rejections - 35 USC § 102

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

6. Claims 1, 5, 21, 22, 40, 42, and 48 are rejected under 35 U.S.C. 102(b) as being clearly anticipated by Hegel, Jr. *et al.* (US004752694A).

With respect to independent claim 1, Hegel, Jr. *et al.* discloses an infrared imaging system (Fig. **1**) comprising an infrared focal plane array **10** comprising a plurality of infrared detectors elements (*e.g.*, **11**) arranged in an array, a readout circuit coupled to the plurality of detector elements **11** and comprising means for biasing the plurality of detector elements **11** (from bias source $\mathbf{V_A}$) so as

to provide separate detection signals corresponding to each detector element **11** in the array in response to incident infrared radiation and means for separately correcting offsets in the detection signals provided from the plurality of (detector) elements in the (focal plane) array to compensate for nonuniformities in the detector elements (column 1, lines 11-13) wherein the means for (separately) correcting comprises a correction circuit including a plurality of circuit elements (FETs **14**, **15**, **16**) and means **60** for selectively electrically connecting the circuit elements **14** into the detector readout circuit in response to stored offset correction values, and output means **51** for providing the corrected detection signals as an output of the focal plane array, means **70** for storing a plurality of offset correction values corresponding to the plurality of detector elements **11**, and means **71**, **72** for providing the offset correction values to the means for (separately) correcting. Column 3, lines 29-52. The plurality of circuit elements **14**, **15**, **16** in the infrared imaging system of Hegel, Jr. *et al.* are parallel connected (Fig. **1**).

With respect to dependent claim 5, the means for selectively (electrically) connecting **60** in the infrared imaging system of Hegel, Jr. *et al.* comprises a plurality of switches **A**, **B**, **C** equal in number to the plurality of circuit elements **14**, **15**, **16** and connected in series therewith (Fig. **1**).

With respect to dependent claim 21, the infrared imaging system of Hegel, Jr. *et al.* further comprises timing means (delivering the "clock input") for providing timing signals to the readout circuit.

With respect to dependent claim 22, the readout circuit in the infrared imaging system of Hegel, Jr. *et al.* further comprises offset correction logic means **62** for controlling the means for correcting in response to the timing signals.

With respect to independent claim 40, Hegel, Jr. *et al.* discloses an infrared imaging system (Fig. **1**) comprising an infrared focal plane array **10** comprising a plurality of infrared detectors

elements (*e.g.*, **11**) arranged in an array, a readout circuit coupled to the plurality of detector elements **11** and comprising means for biasing the plurality of detector elements **11** (from bias source $\mathbf{V_A}$) so as to provide separate detection signals corresponding to each detector element **11** in the array in response to incident infrared radiation and means for separately correcting offsets in the detection signals provided from the plurality of (detector) elements in the (focal plane) array to compensate for nonuniformities in the detector elements (column 1, lines 11-13) wherein the means for (separately) correcting comprises a correction circuit including a plurality of circuit elements (FETs **14**, **15**, **16**) and means **60** for selectively electrically connecting the circuit elements **14** into the detector readout circuit in response to stored offset correction values, and output means **51** for providing the corrected detection signals as an output of the focal plane array, means **70** for storing a plurality of offset correction values corresponding to the plurality of detector elements **11**, and means **71**, **72** for providing the offset correction values to the means for (separately) correcting. Column 3, lines 29-52.

With respect to dependent claim 42, the means for selectively (electrically) connecting **60** in the infrared imaging system of Hegel, Jr. *et al.* comprises a plurality of switches **A**, **B**, **C** equal in number to the plurality of circuit elements **14**, **15**, **16** and connected in series therewith (Fig. **1**).

With respect to dependent claim 48, the infrared imaging system of Hegel, Jr. *et al.* further comprises timing means (delivering the "clock input") for providing timing signals to the readout circuit.

Claim Rejections - 35 USC § 103

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the

subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

8. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

9. Claims 6, 7, 12, 13, 15, 19, 24, 25, 44, 45, 46, 47, and 50 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hegel, Jr. *et al.* (US004752694A).

With respect to dependent claim 6, the memory **70** in the infrared imaging system of Hegel, Jr. *et al.* is a digital memory (column 3, lines 32-33) but there is no requirement that the digital data number stored therein is specifically in base 2. The choice of base for the storage of numbers is entirely within the ordinary skill in the art. Binary is a well-known choice of base in view of the ready availability of hardware and software of effective performance in handling numbers with a base of 2. Note the discussion of an alternative embodiment at column 4, lines 63-68 in which the number 65,536 is exactly 2^{16} which is highly suggestive that digital memory **70''** stores the numbers in base 2.

With respect to dependent claim 7, there is a separate digital data number for each detector element in the infrared imaging system of Hegel, Jr. *et al.* (column 3, lines 36-39).

With respect to dependent claim 12, the formation of the elements of the infrared imaging system illustrated by Hegel, Jr. *et al.* in Fig. **1** on a single monolithic integrated circuit chip would

have been obvious to one of ordinary skill in the art at the time the invention was made in view of the known advantages of miniaturization (column 1, lines 33-36).

With respect to dependent claim 13, the detector elements **11** in the infrared imaging system of Hegel, Jr. *et al.* are bolometers (column 1, line 11). The specific identification of "micro" bolometers is a choice within the ordinary skill in the art depending on the size of the resistive sensors. A micrometer is a millionth of a meter.

With respect to dependent claim 15, the infrared imaging system of Hegel, Jr. *et al.* comprises a fixed voltage $\mathbf{V_A}$ coupled to the detector elements.

With respect to dependent claim 19, the output means **51** in the infrared imaging system of Hegel, Jr. *et al.* is illustrated schematically. The inclusion of buffers therein is a choice which would have been obvious to one of ordinary skill in the art at the time the invention was made in view of the circuit protection afforded thereby.

With respect to dependent claim 24, the output means **51** in the infrared imaging system of Hegel, Jr. *et al.* is illustrated schematically. The inclusion of means for analog to digital converting and providing corresponding image data is a choice which would have been obvious to one of ordinary skill in the art at the time the invention was made in view of the desire for manipulation of detector element signal data and the desire to view the infrared radiation incident on the array.

With respect to dependent claim 25, the provision of a memory for the image data delivered by output means **51** in the infrared imaging system of Hegel, Jr. *et al.* would have been obvious to one of ordinary skill in the art at the time the invention was made in view of the desire for later transmission or non real time processing thereof.

With respect to dependent claim 44, the output means **51** in the infrared imaging system of Hegel, Jr. *et al.* is illustrated schematically. The inclusion of means for analog to digital converting

and providing corresponding image data is a choice which would have been obvious to one of ordinary skill in the art at the time the invention was made in view of the desire for manipulation of detector element signal data and the desire to view the infrared radiation incident on the array.

With respect to dependent claim 45, the detector elements **11** in the infrared imaging system of Hegel, Jr. *et al.* are bolometers (column 1, line 11). The specific identification of "micro" bolometers is a choice within the ordinary skill in the art depending on the size of the resistive sensors. A micrometer is a millionth of a meter.

With respect to dependent claim 46, the memory **70** in the infrared imaging system of Hegel, Jr. *et al.* is a digital memory (column 3, lines 32-33) but there is no requirement that the digital data number stored therein is specifically in base 2. The choice of base for the storage of numbers is entirely within the ordinary skill in the art. Binary is a well-known choice of base in view of the ready availability of hardware and software of effective performance in handling numbers with a base of 2. Note the discussion of an alternative embodiment at column 4, lines 63-68 in which the number 65,536 is exactly 2^{16} which is highly suggestive that digital memory **70''** stores the numbers in base 2.

With respect to dependent claim 47, the formation of the elements of the infrared imaging system illustrated by Hegel, Jr. *et al.* in Fig. **1** on a single monolithic integrated circuit chip would have been obvious to one of ordinary skill in the art at the time the invention was made in view of the known advantages of miniaturization (column 1, lines 33-36).

With respect to dependent claim 50, the output means **51** in the infrared imaging system of Hegel, Jr. *et al.* is illustrated schematically. The inclusion of buffers therein is a choice which would have been obvious to one of ordinary skill in the art at the time the invention was made in view of the circuit protection afforded thereby.

Response to Submission(s)

10. The due date for the first maintenance fee in United States Patent 5,811,808 is March 22, 2002 and the 6-month grace period for acceptance of the first maintenance fee expires September 22, 2002. A reissue application cannot be passed to issue if the patent has expired and must be rejected under 35 U.S.C. 251 because there is no authority to reissue a patent once the patent has expired.

11. The inclusion of a different address in the declaration submitted December 27, 2001 and at the end of the reply submitted on the same date does not constitute sufficient notice of a change in correspondence address under 37 CFR 1.33.

12. The reply submitted December 27, 2001 does not comply with 37 CFR 1.173(c) because there is not supplied the status of all patent claims and of all added claims as of the date of the amendment.

13. Applicant's arguments filed December 27, 2001 have been fully considered but they are not persuasive.

14. The tests set forth in *Hester* at pages 1648-1650 have been applied properly and there is no material narrowing of the claims in other respects that would save them under the principle found in *Mentor Corp. v. Coloplast, Inc.*, 998 F.2d 992, 27 USPQ2d 1521 (Fed. Cir. 1993). Application of the recapture rule as a three-step process remains a valid procedure. *See Pannu v. Storz Instruments Inc.*, 59 USPQ2d 1597 (Fed. Cir. 2001).

15. Recourse to example (A) of MPEP § 1412.02 is not available to the applicant since no aspect of the means for correcting was argued to make the application claims allowable over a rejection or objection made in the application. Similarly, there is no recourse to example (B) of MPEP § 1412.02 since no aspect of the means for correcting was amended to make the application claims allowable

over a rejection or objection made in the application. The Examiner indicated allowability for claims 2, 24, 33, and 37 if rewritten in independent form in the Office action mailed Mach 7, 1997. The only valid analytical tool is example (C).

16. The Examiner's statement of reasons for allowance as made in the attachment to the Notice of Allowability mailed December 9, 1997 is not a general "boiler plate" sentence of the type exemplified by MPEP § 1412.02, example (A) because it is directed to a *specific* limitation and to *specific* claims:

> the prior art of record fails to teach or fairly suggest an infrared imaging system or focal plane array having in combination with the other required elements, the means for correcting specified by independent claim[s] 2, 24, 33 or 37. Claims not addressed are allowable by virtue of their dependency.

17. Claims 2, 24, 33, and 37 became patent claims 1, 26, 27, and 35. Since the specific limitation of a means for correcting *as specified by these claims* is not found in independent claims 40, 52, 53, and 58, the limitation that the examiner's statement of reasons for allowance stated distinguished over a potential combination of references is no longer present in these added claims (it has been omitted and a means for correcting **not of the type** specified in application claims 2, 24, 33, or 37 has been substituted therefor).

18. While acknowledging the Examiner's listing of those portions of the specification and the those views which show a parallel connection, Applicant insists that this is only a preferred implementation but is unable to identify a single phrase, sentence, or view which would suggest to one skilled in the art any other connection. The argument regarding the situation where N=0 is completely spurious because the claims (even claims 40, 52, 53, and 58) demand a plurality of circuit elements, so this situation is *outside* the scope of the claims. The argument regarding higher values of N is bizarre, as it suggests that a correction circuit in which none of the circuit elements were

connected (as by leaving all of the switches S open) would not be an infringement of the claim! Even one moderately skilled in the art should recognize in the context of an infrared imaging system of the type recited that making and selling a correction circuit of the type described, illustrated, and claimed should be an infringement even if all of the switches are left open leaving the circuit elements literally not "connected." Perhaps the figures should be objected to since they show all the switches open and thus do not, in view of the argument presented, illustrate any connection of the circuit elements, parallel or otherwise (and thus do not show the claimed subject matter)? The argument is not persuasive.

19. The argument regarding Hegel, Jr. *et al.* dismisses without justification the plain identification of the correction occurring therein as "offset correction" (Fig. **5**) and ignores the activities of FETs **14, 15, 16** especially in view of Fig. **3**. The arguments regarding other claims repetitiously inherit these flaws. The argument regarding claim 21 additionally goes beyond the requirements of the claim and cannot be persuasive, either. As for the argument regarding claim 19,

> We reach our conclusion further in view of the fact that skill in the art is presumed. *In re Sovish*, 769 F.2d 738, 226 USPQ 771 (Fed. Cir. 1985). The prior art may be properly evaluated for reasonable inferences which one skilled in the art would draw therefrom, and not just for their specific, express teachings. *In re Shepard*, 319 F.2d 194, 197, 138 USPQ 148, 150 (CCPA 1963). Furthermore, artisans must be presumed to know something about the art, apart from what the references disclose. *In re Jacoby*, 309 F.2d 513, 135 USPQ 317 (CCPA 1962). The conclusion of obviousness may be made from common knowledge and common sense of a person of ordinary skill in the art without any specific hint or suggestion in a particular reference. *In re Bozek*, 416 F.2d 1385, 163 USPQ 545 (CCPA 1969). Every reference relies to some extent on knowledge of persons skilled in the art to complement that which is disclosed therein. *In re Bode*, 550 F.2d 656, 193 USPQ 12 (CCPA 1977). And finally, a reference must be considered under 35 U.S.C. 103 [now 35 U.S.C. 103(a)] not only for what it expressly teaches but also for what it fairly suggests. *In re Burckel*, 592 F.2d 1175, 201 USPQ 67 (CCPA 1979).

20. For at least the reasons explained above, Applicant is not entitled to a favorable determination of patentability in view of the arguments submitted December 27, 2001.

Allowable Subject Matter

21. Claims 2-4, 8-11, 14, 16-18, 20, 23, and 26-35 are allowed.

22. Dependent claims 2-4, 8-11, 14, 16-18, 22, and 23 would have to be rewritten in independent form if claim 1 were to be canceled. MPEP § 1455.

23. The following is a statement of reasons for the indication of allowable subject matter: with respect to dependent claim 2, it would not have been obvious to replace the FETs **14**, **15**, and **16** in Hegel, Jr. *et al.* with capacitors; with respect to dependent claim 8, row and column designations are interchangeable, but it would not have been obvious to describe the operation in Hegel, Jr. *et al.* as occurring in a time multiplexed manner; with respect to dependent claims 9 and 16, it would not have been obvious to replace the FETs **14**, **15**, and **16** in Hegel, Jr. *et al.* with constant current sources; with respect to dependent claim 20, it would not have been obvious to include a differential amplifier having the specifically recited connection; with respect to dependent claim 23, the offset correction logic means **62** in Hegel, Jr. *et al.* does not itself receive any offset correction values from the means for storing **70** or **70''**.

Conclusion

24. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be

calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

25. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Constantine Hannaher whose telephone number is (703) 308-4850. The examiner can normally be reached on Monday-Friday with flexible hours.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Seungsook (Robin) Ham can be reached on (703) 308-4090. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 308-7722 for regular communications and Not Established for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0956.

Constantine Hannaher
Primary Examiner

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January 15, 2002